Climate Trends, National Parks, Virgin Islands, USA

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November 14, 2013

Historical and projected climate trends (Gonzalez et al. 2010, IPCC 2007, Mitchell and Jones 2005) for the area that includes the five national parks:

Buck Island Reef National Monument

Christiansted National Historic Site

Salt River Bay National Historic Park and Ecological Preserve

Virgin Islands Coral Reef National Monument

Virgin Islands National Park

	mean	SD		mean	SD	
Historical (1901-2002)						
temperature annual average	25.4	0.4	ºC	78	0.7	ºF.
temperature linear trend	0.9	Sig.	ºC/century	1.7	Sig.	ºF./cent.
precipitation annual average	2200	400	mm/y	85	17	in./year
precipitation linear trend	7	N.S.	%/century	7	N.S.	%/century
Projected (1990-2100)						
IPCC B1 scenario (lower emissions)						
temperature annual average trend	1.3	0.4	ºC/century	2.3	0.8	ºF./cent.
precipitation annual average trend	-18	9	%/century	-18	9	%/century
IPCC A1B scenario (medium emissions)						
temperature annual average trend	1.8	0.4	ºC/century	3.2	0.8	ºF./cent.
precipitation annual average trend	-25	9	%/century	-25	9	%/century
IPCC A2 scenario (higher emissions)						
temperature annual average trend	2.1	0.4	ºC/century	3.7	0.8	ºF./cent.
precipitation annual average trend	-30	9	%/century	-30	9	%/century

Sig. = statistically significant; N.S. = not statistically significant

References

Gonzalez, P., R.P. Neilson, J.M. Lenihan, and R.J. Drapek. 2010. Global patterns in the vulnerability of ecosystems to vegetation shifts due to climate change. Global Ecology and Biogeography 19: 755-768.

Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Cambridge University Press, Cambridge, UK.

Mitchell, T.D. and P.D. Jones. 2005. An improved method of constructing a database of monthly climate observations and associated high-resolution grids. International Journal of Climatology 25: 693-712.